

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	GN Docket No. 09-51
National Broadband Plan for Our Future	)	

**COMMENTS OF**  
**APPALSHOP**  
**ACCESS HUMBOLDT**  
**BENTON FOUNDATION**  
**CALIFORNIA CENTER FOR RURAL POLICY**  
**CENTER FOR RURAL STRATEGIES**  
**INSTITUTE FOR LOCAL SELF-RELIANCE**  
**MAIN STREET PROJECT**  
**MOUNTAIN AREA INFORMATION NETWORK**  
**NATIVE PUBLIC MEDIA**  
**RURAL POLICY RESEARCH INSTITUTE**

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June 8, 2009

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To: The Commission

**COMMENTS OF THE  
RURAL INTERNET AND BROADBAND POLICY GROUP**

Appalshop, Access Humboldt, Benton Foundation, California Center for Rural Policy, Center for Rural Strategies, Institute for Local Self-Reliance, Main Street Project, Mountain Area Information Network, Native Public Media, and Rural Policy research Institute (collectively The “Rural Internet and Broadband Policy Group”) files these comments in the above captioned proceeding.

The attached “Rural Internet and Broadband Policy Group - Comments on National Broadband Plan,” in its present form as submitted, constitutes the comments and recommendations of the above listed organizations. The Rural Internet and Broadband Policy Group consists of organizations dedicated to rural broadband, rural development, or are otherwise involved in digital inclusion policies.

Respectfully submitted,

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June 8, 2009

## **RURAL INTERNET AND BROADBAND POLICY GROUP**

The Rural Internet and Broadband Policy Group is a growing national coalition of rural broadband advocates. The Rural Internet and Broadband Policy Group has two goals: 1) to articulate national broadband policies that provide opportunities for rural communities to participate fully in the nation's democracy, economy, culture, and society, and 2) to spark and kindle national collaboration among rural broadband advocates.

As the Federal Communications Commission develops a National Broadband Plan, we request that you consider the needs of rural communities. We respectfully encourage the FCC to adopt the Rural Broadband Principles we have listed and to consider the following comments.

### **SUMMARY**

The Rural Internet and Broadband Policy Group drafted comments and recommendations concerning the following sections of the Notice of Inquiry released by the Federal Communications Commission April 8, 2009 regarding the development of a National Broadband Plan: Sections A, B1, B2, B3, C1, C2, C3, C4, C5, C6, D1, D2, E1, F2, and F4. We base these comments and recommendations on four principles that we believe should guide the development of the future of broadband in rural communities:

- 1. Communication is a fundamental human right.**
- 2. Rural America is diverse.**
- 3. Local ownership and investment in community is the priority.**
- 4. Network neutrality and open access are vital.**

## **RURAL BROADBAND PRINCIPLES**

The Rural Internet and Broadband Policy Group upholds the following principles to articulate broadband and internet policies for rural America.

### **1. Communication is a fundamental human right.**

Lack of access to broadband denies rural areas the fundamental human right to communicate. Without broadband, rural communities are further isolated from economic and civic participation, thus, diminishing antipoverty efforts. Economic distress in rural communities – lack of jobs, inadequate education, poor healthcare, outflow of local talent, etc. – is exacerbated by the inability to communicate. Broadband is no longer a luxury but a vital service necessary to fully participate in the nation's democracy, economy, culture, and society. As the nation moves forward in new ways with advanced digital communications, broadband access becomes a fundamental human right. Observing and protecting this right will provide more resources for rural areas to improve economic conditions and advance with the rest of the nation.

### **2. Rural America is diverse.**

Rural America is diverse in terrains, cultures, foods, peoples, and knowledge. There is no one-size-fits-all solution for all rural communities. Tribal lands are an example of the diverse needs of rural areas. Tribal sovereignty includes the right of each Native Nation to govern relationships and territory within tribal homelands. As with each tribe, each rural community has its own land-based network of knowledge. Therefore, the diversity of rural America must be represented in national broadband policies. Priority should be given to policies that support diverse technologies, develop locally produced broadband

content, encourage adequate data collection methods, and respect the unique characteristics of each community.

### **3. Local ownership and investment in community is the priority.**

Policies that prioritize local ownership invest in the success of community. Absentee-ownership of broadband infrastructure and service has failed to serve rural communities in part because outside corporations fear rural areas will not return profits available from wealthier, more densely populated markets. Local ownership of broadband infrastructure and service can address problems ignored by absentee-owners such as lack of broadband access, slow speeds, limited (if any) provider choice, open access, training and adoption of technology, data collection, and aggregation of demand. Rural communities must own local communications infrastructure, not only to boost their local economies, but to ensure that broadband is accessible to every rural community in the nation.

### **4. Network neutrality and open access are vital.**

Rural areas generally have less access to all forms of media, not just broadband. Therefore, net neutrality, which establishes the principle of open and unfiltered access to information, is vitally important for rural communities. The ability to originate content on an equitable and symmetric basis is also necessary to meet the public interest.

## **COMMENTS and RECOMMENDATIONS**

### **A. Approach to Developing the National Broadband Plan**

*The National Broadband Plan must be accountable to local communities.*

National planning must recognize and nurture the diverse and unique characteristics of every local community. More than just a sampling of different population demographics, the approach must be open, transparent and accountable to residents no matter where they live.

Meaningful engagement of local jurisdictions, such as tribes, counties, municipalities, community service districts, etc., is necessary to ensure that all people and places are not only represented, but truly involved.

All communities, in particular historically disenfranchised communities, should be engaged in this plan as more than consumers of technology, but as producers of knowledge and contributors of information that respects cultural, linguistic, and gender diversity in all media. We pose two questions to answer as essential measures of success for the FCC's approach:

1. To what extent are the "least served" people engaged in the planning process?
2. How well will the National Broadband Plan ultimately address human needs of historically disenfranchised populations and places such as rural, native, immigrant, etc.?

### **B. Establishing Goals and Benchmarks**

#### **B1. Defining Broadband Capability**

*Symmetrical and ambitious speeds are part of the definition of broadband capability as advances in technologies inform its evolution.*

Networks developed by the National Broadband Plan must make it as easy to produce content as it is to consume. The standards of speed for broadband capability must first rest on symmetrical upload and download rates.

As the standard of speed changes and technologies evolve, we should not be locked in a regulatory framework that limits us to obsolete technology. Instead the National Broadband Plan must promote and fund low-latency networks that offer a high quality of service and the functionality to meet the service and application needs of our communications future.

Our communications infrastructure must prioritize competition, innovation and localism. The standards of speed should require higher speeds from privately owned networks at rates that are competitive with other industrialized nations. The internet serves as a global public infrastructure. The build out and regulation of networks must ensure connection to the backbone of the internet globally, at high speeds that break the barriers of frontiers for communication and commerce. The National Broadband Plan must:

1. Prioritize ambitious speed goals that allow rural communities to compete globally,
2. Use diversity of technologies to deliver high-speed internet service based on the needs of each community because there is no one-size-fits-all-technology.

**B2. Defining Access to Broadband**

***The National Broadband Plan must ensure universal access.***

Access to broadband capability is being able use broadband infrastructure, afford broadband service, have an easy-to-get-to reliable location that provides broadband service, and use and produce content culturally-relevant to the user in her own language. The National Broadband Plan needs to address the human impact – the opportunity for all people, regardless of their digital skills, geographical and socio-economic situation – to create and to share information useful for their own life plans. Elements of universal access include:

1. Infrastructure access.

The Commission should support bandwidth that will enable people to use it – regardless of where they live.

2. Affordable access.

Broadband infrastructure, including rules, pricing and taxes, should make access affordable for all income levels.

3. Workplace access.

This is especially important for those with no or limited access at home.

Given the increased role of internet communication in society, and since work is one of the most significant places people spent their time, it is of the utmost importance that workplaces and worksites understand that employees are allowed to access and use internet at their workplaces and worksites for a range of activities such as banking, e-commerce, civic engagement, etc.

4. Public access.



Because many people don't have home computers and Internet access, communities must provide enough public access points (telecenters, libraries, community centers, clinics and schools) so that access is within walking distance of home or work.

5. Multi-cultural and multi-language information access.

The Commission should ensure that local content is developed in non-Latin languages spoken by local populations. Technical development should encourage linguistic diversity on the Internet and simplify the exchange of information across languages.

Furthermore, the definition of universal access should be expanded to include access to *network expertise* - the knowledge that network operators possess that is essential to experimentation and innovation. Rural areas have been especially hard-hit by absentee-owners of networks removing IT staff from rural communities and consolidating this critical human resources in urban areas.

6. National policy should encourage local ownership of networks in rural areas in order to reverse the "brain drain" of IT practitioners, thereby restoring the social capital benefits of local IT expertise and creating broadband access grounded in community.

### **B3. Measuring Progress**

*Data that assesses the adoption of broadband technology will help the FCC to measure progress.*

In order to learn about the state of broadband adoption and ways to increase adoption of the technology, the Commission should collect data with the goal of assessing and creating adoption. We recommend the Commission:

1. Collect data on the challenges communities face in using broadband technology such as affordability, language barriers, technology training, and access to hardware.
2. Collect data on prices for actual and advertised broadband service. This information is crucial in determining whether a community has access to broadband – if broadband service is not affordable for the community, then the community does not have access to broadband.
3. Obtain answers to the following questions from every community:
  - a. Do you have access to broadband? Where, when, how, for how long?
  - b. Do you have affordable broadband? Is the cost within reach of the members in your community?
  - c. Is the speed of your broadband service the speed you want? Does your broadband speed meet your needs?
  - d. What has encouraged you to begin/continue/increase your use of broadband service?
  - e. What limits your use of broadband technology?

## **C. Effective and Efficient Mechanisms for Ensuring Access**

### **C1. Market Mechanisms**

The National Broadband Plan should compensate for the lack of private broadband investment in rural communities. The Commission should prioritize reaching communities that do not have access to broadband, rather than rebuilding existing networks. Local oversight, transparency, accountability, and public access to collected information are important components of this plan as it will be funded by public money.

## **C2. Determining Costs**

Rural America is vast and diverse. Sixty million Americans, or about 20 percent of the population, live in the countryside on 80 percent of the nation's land. While such a large area belies easy characterization, nonmetropolitan areas do share a common set of concerns and features that bear directly on communications policy.

The predominant feature of rural areas is the land: mountains, plains, coastlines, deltas, and other geographic characteristics. Rural cultures and economies grow in response to place, and in rural areas place is defined by land. Rural areas are by definition geographically dispersed and less densely populated than urban areas, making delivery of public services more challenging. But the health of the nation as a whole is directly linked to the wellbeing of rural America. Rural America provides the food and natural resources upon which healthy cities rely, and urban areas are a primary market for rural goods. The United States cannot build a healthy economy without considering the interdependent nature of rural and urban areas. When rural communities lag behind, the entire nation feels the effects. Taken as a whole, rural communities are at risk. Rural residents are far more likely to be poor, undereducated, sick, and prone to a range of maladies such as drug addiction, depression, and suicide. Of the 250 poorest counties, 244 are rural.

Digital communications technology could be part of the solution for addressing these economic and social difficulties. Broadband access would allow rural America to reap the benefits of telehealth, telecommuting, higher education distance learning, improved emergency communications systems, and greater connection to the global

economy. But rural America lags the rest of the nation in broadband penetration. Currently, the United States ranks 17<sup>th</sup> in broadband penetration. While the national penetration rate is 47 percent, a 2008 study by the Pew Internet & American Life Project shows that less than a third of rural Americans have broadband in the home. While geography plays a large role in the lack of access, demographics also contribute to this disparity. Rural Americans tend to be poorer, have less formal education, and are older, all factors that correlate with reduced Internet usage. Policy obstacles also play a major role. The current market-driven policies for the build out of broadband do not adequately serve rural communities. After all, the federal government defines rural areas as regions lying outside metropolitan markets. Therefore, market-driven solutions for rural areas are problematic by definition.

Rural America needs broadband. We need an approach to broadband development with rural principles at its core. We need broadband to participate fully in the nation's democracy, economy, culture, and society. It is our responsibility to ensure that the new administration addresses the needs and builds upon the opportunities of all – and “all” includes rural America.

### **C3. Universal Service Programs**

***The Universal Service Fund must be reformed to improve wired telephone and broadband service in vulnerable rural communities.***

The Universal Service Fund has been instrumental in delivering essential communications services to low income families, schools, libraries, and clinics in rural areas - the exact places where communications services would not exist because of

prohibitive costs. However, the Universal Service Fund (USF) is inefficient and must be reformed.

USF reform must acknowledge that its current contribution base is shrinking. Presently, the primary contributors into the USF are carriers operating in the most competitive markets, including wireline, long distance, and wireless telephony. However, increased broadband deployment has significantly changed the marketplace, and consumers are increasingly abandoning traditional services in favor of Internet based communications systems, including email and VoIP. The result is a contribution base on the decline and an increasingly smaller pool of funds.

Additionally, the old cross-subsidy method of universal service is unsustainable in this new competitive market. Often new market entrants can cherry pick specific low-cost customers, therefore qualifying for funding without incurring high infrastructure buildout costs. Therefore, despite USF funds being distributed, high cost customers, such as residents of Indian Country, are left without access to vital communications services. The result, however, is not only high cost customers being ignored by individual carriers, but also a reduction in the pool of funds available for another provider to bring these customers service.

The Commission must also not forget that there are eight Tribal telcos in this country that serve Native communities. As these companies begin to move toward triple play services and network upgrades, the fixed costs incurred in constructing and maintaining these networks are offset by universal service funds. Therefore, universal service funds are going to be in more demand than ever before at a time when the

contribution base and overall funding is on the decline. Therefore, to reform the current system, we make the following recommendations:

1. Reclassify broadband as a telecommunications service

*or*

Require USF contributions from broadband providers to increase the pool of funds available for broadband deployment in high-cost areas such as Indian Country.

2. Redefine "Tribal homelands" as service areas for the purposes of:

determining universal service subsidies; whether Tribal service areas will be driven by a market-driven competitive process, Tribal government process, or hybrid process; and whether to put in place a monitoring system to ensure compliance for quality, availability, price and performance by broadband service providers.

3. Evaluate how the universal service programs Lifeline/Linkup and E-rate can help to increase broadband access among low income families and students.
4. For communities unable to afford broadband service where it is available, programs modeled on the successes of Lifeline/Linkup and E-rate programs should be created to provide low-cost or free broadband service to low-income high-cost consumers, as well as low-cost or free computers from local providers.

The FCC and Congress must reform the Universal Service Fund. However, the support of telephone service that is still vitally important to rural communities cannot disappear overnight. This service must remain as an analog safety net during the

transition to broadband. USF reform should be carefully crafted to provide better broadband deployment and continue support of telephone in rural communities. In Indian Country, where telephone penetration remains at sixty-eight percent<sup>1</sup>, communities will continue to need USF support until the last Tribal community is connected to the Internet. Any reform to the USF must therefore take into consideration the continued use of wired telephone services where broadband deployment is either nonexistent or slow, and where emergency protocols may need the redundancy of traditional telephone systems<sup>2</sup>.

#### **C4. Wireless Service Policies**

The unlicensed use of the vacant TV channels – known as “white spaces” – presents an important opportunity to provide wireless broadband service in rural communities, and to develop affordable, public, open, locally-owned broadband networks in rural communities.

Use of the vacant TV channels will enable Wireless Internet Services Providers (WISPs) to reach underserved areas of the rural United States. Current Wi-Fi signals are subject to physical and geographic obstructions such as mountains, buildings, and dense foliage. By contrast, signals in the lower-frequency unused TV channels can penetrate buildings, cut through dense foliage, and travel over mountains, providing a cost-effective solution for the rural broadband problem.

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<sup>1</sup> [1] See U.S. Government Accountability Office, *Challenges to Assessing and Improving Telecommunications for Native Americans on Tribal Lands*, GAO-06-189 (Jan. 2006).

<sup>2</sup> [2] For example, on the Hopi Reservation when the electrical grid is dark, normally the only telephone that will work is the line rotary phone. All other wireless handhelds are rendered useless

We commend the Commission in furthering this opportunity by voting unanimously to open white spaces on November 4, 2008. This vote was an important step forward for rural communities. However, there is still much work left to be done to deliver the promise of broadband over vacant TV channels. To ensure that this favorable FCC vote is translated into action and reality, we recommend the Commission:

1. Support and expedite the unlicensed use of vacant TV channels and develop rules and regulations that makes spectrum available to local and public service providers.
2. Encourage the development and manufacturing of white space devices.

#### **C5 & 6. Open Networks & Competition**

***Open networks must be a key principle of the National Broadband Plan.***

The Commission should incorporate access, nondiscrimination, and infrastructure sharing in the definition of the term “open.” These components are especially important to boost competition in rural areas.

Rural areas generally have less access to all forms of media, not just broadband. Broadband technology enables communication that creates the possibility of a global public sphere; yet, this technology also faces mechanisms for censoring, blocking, restricting access, and discrimination. Broadband “pay-to-play” refers to the content provider practice of charging customers for high quality performance, and/or controlling what customers access online. This practices leads to a closed, proprietary Internet, rather than one committed to a principle of openness.



1. The National Broadband Plan, in coordination with state governments, should ensure that control of information remains with the user, not the company that provides the connection.
2. The National Broadband Plan should adopt the fifth Network Neutrality principle suggested by FCC Acting Chairman Michael J. Copps : ISPs should not block, hobble, molest, unfairly prioritize, too deeply packet inspect, or otherwise selectively interfere with protocols or devices on the Internet.

Rural areas present a challenge to market-driven telecommunications investments. Low population densities mean networks take longer to make a profit, rural areas are often the last to get key upgrades, and companies frequently let services deteriorate rather than invest. This is the reality of broadband in rural communities, and unfortunately, those with any service at all feel lucky regardless of its quality. However, policy that recognizes the economic reality of rural telecommunications will require physical infrastructure to be shared among competitors, to encourage competition at the services level.

An open infrastructure access platform provides the means to encourage communities to meet their own needs. Local businesses, lacking the necessary capital to compete by building their own telecommunications infrastructure, would be able to compete on open access infrastructure. Opening networks in this manner would encourage entrepreneurs, strengthen local economies, and increase innovation. Further, robust competition will tend to drive down prices and allow self-regulation. When the transaction costs of changing providers are low and subscribers have a choice, inefficient service providers will be driven from the market.

3. The National Broadband Plan should advocate open infrastructure platforms that lower the barriers to entry encouraging entrepreneurs, strengthening local economies, and increasing innovation and competition.

In addition, the infrastructure should be separated from the services. Though the infrastructure owner may be permitted to offer services on the network, the owner must charge the same rates to competitors as it does for itself. These costs should reflect the true cost of owning, maintaining, and upgrading the infrastructure rather than an artificially high price intended to stifle competition.

4. The National Broadband Plan should support structural separation of infrastructure and services.

#### **D. Affordability and Maximum Utilization**

***In order to maximize the use of broadband infrastructure, the FCC must make broadband access affordable for all income level.***

The impact of access to affordable broadband cannot be understated. Currently, we have the opportunity to redeem the promise of the Internet, to allow and encourage all people to connect and collaborate in new and unprecedented ways. Given the Internet's increasingly central position in our culture, economy and democracy, broadband policymakers must respond to a history of inequity in communications infrastructure and access, economic opportunity, and education. Comprehensive and thoughtful broadband build-out can help to strengthen educational and health services, local business, public participation, access to information, good governance and poverty eradication. In order to

achieve these goals, all U.S. residents must have affordable access to the Internet. We recommend the following:

1. Define *affordable broadband* as access to broadband infrastructure, service, and equipment for all income levels.
2. The FCC must ensure that the development of broadband infrastructure, including rules, pricing and taxes, makes access possible for all income levels.

The achievement of maximum utilization requires that all homes, public institutions, and businesses have affordable access to broadband services, and to affordable hardware and software. The Internet serves as a global public infrastructure, and as such, must be ubiquitous and support sufficient bandwidth to all US residents to utilize and contribute to its potential. Furthermore, in order for all residents to be able to maximize the use of broadband and to contribute to its potential, the national broadband plan must address adoption of the technology. To promote broadband technology adoption in order to maximize its use, the national broadband plan must:

3. Support funding of adoption projects in communities historically at the margins of technology such as native, rural, low-income, immigrant, and communities of color.
4. Monitor and measure the affordability and maximum utilization of broadband infrastructure by collecting data with the goal of assessing and creating adoption of broadband technology. In order to learn about the state of broadband adoption and ways to increase adoption of the technology, we recommend:

- a. Collect data on the challenges communities face in using broadband technology such as affordability, language barriers,

technology training, and access to hardware.

- b. Collect data on prices for broadband service. This information is crucial in determining whether a community has access to broadband which determines the use of the infrastructure/service – if broadband service is not affordable for the community, then the community does not have access to broadband.

## **E. Status of Deployment**

### **E1. Subscribership data and mapping**

We support the Broadband Data Improvement Act as a vehicle for obtaining adequate broadband accessibility data from rural areas. We know that access to broadband is more limited in rural areas than in metropolitan areas, but we do not know precise and comprehensive statistics on the state of infrastructure, access, cost, and adoption of rural communities. In order to obtain useful, granular, verifiable data, we recommend:

1. Change the zip code method of defining where broadband service exists. The zip code method does not reveal the true availability of broadband to residences and businesses in rural areas and will lead to poor policy decisions.
2. Mapping should be done at the street address level and with field-based mapping techniques that will include communities without street addresses but rather Post Office boxes such as some reservations and *colonias* across the southwest.

3. Prioritize data of locally-driven broadband data collection projects that apply verifiable methodologies and make the data accessible to the public.
4. Collect data on available speeds based on actual not advertised availability, and at times of peak usage.
5. Data collected also needs to include technical information about traffic routing, network architecture and geo-spatial data to identify the quality of service and functionality of connections at any given location.

Furthermore, data should also be collected with the goal of assessing and creating adoption of broadband technology. In order to learn about the state of broadband adoption and ways to increase adoption of the technology, we recommend:

6. Collect data on the challenges communities face in using broadband technology such as affordability, language barriers, technology training, and access to hardware.
7. Collect data on prices for broadband service. This information is crucial in determining whether a community has access to broadband – if broadband service is not affordable for the community, then the community does not have access to broadband.
8. A Data Map should:
  - a. Utilize verifiable, reliable data sources.
  - b. Standardize GIS schema at a national level.
  - c. Map broadband services, upload and download speeds at time of peak usage, and factors that affect adoption.

- d. Map all federally owned, state-owned, and tribal-owned lands and buildings.

#### 9. Transportation Projects Data Base

We recommend the creation of a transportation projects data base to facilitate coordination between the appropriate agencies about projects funded, allow broadband providers to view upcoming construction projects and be given an opportunity to lay fiber during the construction phase, decreasing both broadband system construction costs and public disturbance to right-of-way.

10. The federal government, state institutions, tribal governments, and local leaders should work together to determine the variety of geographical areas' needs to understand the nature of universal broadband deployment.

### **F. Specific Policy Goals of the National Broadband Plan**

We must make certain that historically disenfranchised communities are not marginalized once again by new broadband policies and initiatives. Native American and rural communities, low income, immigrants, communities of color, and people with disabilities demand and deserve special attention in the deployment of resources for broadband access, technology adoption, literacy and training so that we can achieve full civic participation.

#### **F2. Civic Participation**

High-speed internet access can improve government efficiency and

communication, provide access to educational opportunities and engage residents in new ways. In order to realize true civic participation through the Internet we must move beyond 'access to information' to active participation in the online commons.

Availability, cost, literacy and security are all important aspects of increasing Civic Participation through broadband.

Additionally, in order to ensure access and usage, content and applications must be designed to ensure accessibility for all, including people with physical or cognitive disabilities, differing literacy levels and in languages other than English.

As federal, state, and local governments increasingly rely on the Internet to provide information, forms, and services for various government programs, the need for universal, affordable access grows. And, with civic participation only a click away, high speed Internet can lower the barrier between residents and their elected officials. The capabilities of high speed Internet to aid in everything from simplifying interactions with public agencies to expanding the possibilities of a participatory democracy present exciting opportunities for rural communities.

In the absence of universal, affordable high speed connections and affordable hardware, many U.S. residents will be kept from engaging in e-government. Those without computers or access to broadband will miss out on opportunities for digital civic engagement.

In order to achieve the goal of robust civic participation, the National Broadband Plan must ensure affordable, universal access to broadband infrastructure, services, and equipment to all income levels.

#### **F4. Community Development**

Broadband is a key component of a platform for rural sustainability. Through telework, e-commerce and the free flow of ideas—Internet can connect rural communities to the world. Yet, sustaining and strengthening “locality” is also needed. Efforts to strengthen and increase online interactions focused on local issues, as well as local government access is crucial to our rural future.

Broadband can provide the backbone necessary for rural communities to strengthen their health care, emergency services and education systems—all essential components to attracting businesses to a community.

Access to Internet communication in the 21st century is not a luxury; it’s a necessity! While rural residents may have achieved near parity with their urban counterparts in conventional dial-up Internet connectivity, rural areas tend to lag behind urban areas in broadband penetration<sup>3</sup>. This discrepancy presents a significant challenge to communities hoping to revitalize lagging industrial and agricultural economies.

The lack of telecommunication services hinders the provision of enhanced educational content for K-12 education and adult learning, for those living in rural areas.

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<sup>3</sup> FCC website: [http://wireless.fcc.gov/outreach/index.htm?job=broadband\\_home](http://wireless.fcc.gov/outreach/index.htm?job=broadband_home)



## ENDORSEMENTS

The Commission should note that while other organizations were consulted in the drafting and preparation of this document, only the organizations listed have endorsed these comments for inclusion in the record of this proceeding:

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